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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,434

05/02/2005

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EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

05/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/533,434

Applicant(s)

KAWABE ET AL.

Examiner

Christopher R. Lamb

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 18 is/are rejected.
- 7) ☒ Claim(s) 6-17 and 19-36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings were received on February 9<sup>th</sup>, 2007. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamada et al. (US 2002/0181360).

This rejection has been repeated from the previous Office Action.

Regarding claim 1:

Hamada discloses:

A phase error detecting circuit for use in extracting, based on reproduced data that has been reproduced from a record reproducing apparatus and quantized, a synchronous clock which is synchronized with the reproduced data, the phase error detecting circuit comprising:

a cross detector for receiving the reproduced data and a specified reference value and detecting a cross timing at which the reproduced data crosses the reference value (paragraphs 74-88);

a phase error calculator for receiving the reproduced data and a cross timing signal from the cross detector and calculating a difference between the value of the reproduced data and a zero value at the cross timing as phase error data (paragraph 93); and

a cross reference value generator for receiving the phase error data from the phase error calculator and updating the reference value of the cross detector based on the phase error data (paragraph 81; the center value used by the edge detection circuits may be based on the offset value detected).

Regarding claim 2:

In Hamada the cross reference value generator updates, every time the phase error calculator calculates the phase error data, the calculated latest phase error data as a reference value for the cross detector (paragraph 81).

Regarding claim 3:

In Hamada the cross detector has: a rising cross detector for detecting a rising cross timing at which the reproduced data crosses the reference value upon rising thereof; and a falling cross detector for detecting a falling cross timing at which the reproduced data crosses the reference value upon falling thereof (paragraphs 73-88).

Regarding claim 4:

In Hamada the phase error calculator calculates, upon receipt of a rising cross timing signal from the rising cross detector, a difference between the value of the reproduced data and the reference value at the rising cross timing as rising phase error data and calculates, upon receipt of a falling cross timing signal from the falling cross

detector, a difference between the value of the reproduced data and the reference value at the falling cross timing as falling phase error data (paragraph 51-52).

Regarding claim 5:

In Hamada the cross reference value generator receives the rising edge phase error data and the falling edge phase error data each from the phase error calculator and outputs the rising phase error data as a rising reference value to the rising cross detector, while outputting the falling phase error data as a falling reference value to the falling cross detector (paragraph 80: the cross detectors may use the offset values from the second phase error calculating circuit; paragraphs 151-152: the second phase error calculating circuits may use separate offset values for the rising and falling (leading and trailing) detectors).

Regarding claim 18:

Hamada discloses:

A synchronous clock extracting circuit comprising (Fig. 1):  
a phase error detecting circuit as recited in claim 1 (Fig. 1: 44, 54); and  
a voltage control oscillator for receiving the phase error data outputted from the phase error detecting circuit and changing a frequency of a synchronous clock in accordance with a phase error shown by the phase error data (Fig. 1: 46, 56).

***Allowable Subject Matter***

4. Claims 6-17 and 19-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. See the previous Office Action for a statement of reasons for the indication of allowable subject matter.

### ***Response to Arguments***

6. Applicant's arguments filed February 9<sup>th</sup>, 2007 have been fully considered but they are not persuasive.

Applicant argued with the rejection of claims 1-5 and 18 as anticipated by Hamada. Applicant's argument is that the reference level of Hamada does not correspond to the reference value of the claim. Applicant states that the reference value of the claim "is for determining a timing of obtaining reproduced data for calculating phase error data." Applicant states that the reference value "is used for detecting a cross timing at which reproduced data crosses the reference value," and the value at that cross timing is used to calculate the phase error and then update the reference value. Applicant argues that Hamada instead uses the reference level for determining "a value of a reproduction signal."

However, Hamada uses the reference level for detecting the leading and trailing edges of a reference signal (see paragraphs 74-88). Applicant argues Hamada does not detect the cross timing, but detecting the edges of a signal is detecting the cross timing of the signal. Hamada uses the reference value to detect the cross timing, calculates a difference between the value of the reproduced data and a zero value at the cross timing, and then updates the reference value, just as required by Applicant's claim language. See the previous rejection.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

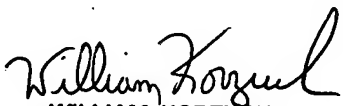
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (571) 272-5264. The examiner can normally be reached on 9:00 AM to 6:30 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 4/20/07

  
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